

**THE LARVAL HABITAT OF *LEIODES RUFIPENNIS* (PAYKULL)
(= *CLAVICORNIS* (RYE)) (COL.: LEIODIDAE):
SOME PRELIMINARY OBSERVATIONS**

R.M. LYSZKOWSKI

"Glenwood", 57 Henderson Street, Bridge of Allan, Stirlingshire FK9 4HG.

THE WRITER, on 26.vi.1986, was looking for *Bledius* larvae along the Allt Cuaich at NN6786 at a site 5km from Dalwhinnie, Inverness-shire. At one spot near the edge of the stream, some 2cm below the surface of sparsely vegetated sand, three small whitish unfamiliar larvae were found. The larvae, along with a sample of the surrounding sand, were collected for further study.

Close examination revealed that the larvae were living in small hollowed out cells surrounded by a matrix of sand and microscopic, sand-coloured spheres. It was a fair guess that what I had found was some sort of subterranean fungus together with the larvae of a Leiodid beetle. Very few published observations existed on the relationship between the Leiodinae and their larval food (Crowson, 1981), so it was decided to try and rear the larvae.

The mature larvae were roughly 3mm long with well developed head and mandibles and spent much of their time with their abdomen arched up and over their heads. On being disturbed, a larva would rub the dorsal tip of its abdomen to and fro quite rapidly over the anterior part of its head, as if it were stridulating in some sort of way. Small transverse ridges of chitin are present on the surface of the last tergite and undoubtedly form a stridulatory file, the shape of which, together with the placement of associated bristles, could be useful characters for identification. Competing larvae probably use stridulation as a warning, thus avoiding injury from the relatively powerful mandibles. Of the three original larvae, one succumbed to a bite inflicted by one of the others, whilst two successfully pupated. One of the pupae collapsed a couple of days later, but the other produced a male *Leiodes rufipennis* (Paykull) which was kept alive until mature.

Two problems arose during the rearing. Firstly, the small samples of sand and fungus were often covered by the hyphae of *Mucor*-like moulds but regular brushing of the surface of the sand with a small paint-brush managed to keep the mould under control. Secondly, hundreds, if not thousands of nematode worms were present in the sand around the fungus samples and at times the worms could be seen in numbers at the extremities of grains of sand, waving their bodies around in the air. Because of the possibility that the nematodes were responsible for the death of the first pupa, the worms were regularly removed from the liquid film on the surface of the surviving pupa. Paint-brushing proved to be the most effective means of removal.

A dried sample of the fungus in which the larvae had been feeding was eventually sent to Dr C. Walker at the Forestry Commission's Northern

Research Station at Roslin, Midlothian via Dr N. Dix (University of Stirling) and Dr R. Watling (Royal Botanic Garden, Edinburgh). Dr Walker identified the fungus, and added, "It is a typical sporocarp of the species *Glomus macrocarpum* Tulasne & Tulasne, and consists of many hundreds of individual chlamydospores bound together (relatively tightly) by a matrix of sterile hyphae." Fresh sporocarps are globose, subglobose, elongate or irregular, up to 10x10x8mm, and have debris adherent to the surface (Berch & Fortin, 1983). A mature specimen recently found by the author also had a very pungent smell, somewhat reminiscent of some decomposing fish.

Acknowledgements

Dr N. Dix and Dr R. Watling are thanked for the part they played in having my fungus sample identified, and I especially thank Dr C. Walker for carrying out the identification and also for much useful information concerning the fungus together with a copy of the paper by Berch & Fortin. I would also like to thank Dr Graham Rotheray (Royal Museum of Scotland) for looking over my paper.

References

- Crowson, R.A., 1981. *The Biology of the Coleoptera*. Academic Press.
Berch, S.M. & Fortin, J.A., 1983. Lectotypification of *Glomus macrocarpum* and proposal of new combinations: *Glomus australe*, *Glomus versiforme*, and *Glomus tenebrosus* (Endogonaceae). *Can. J. Bot.* **61**: 2608-2617.
-
-

Aethes francillana (Fabricius) (Lep.: Tortricidae) bred from *Conium maculatum*

On 29th April 1990 Dr John Langmaid and I were recording microlepidoptera at Chesil, Dorset. John observed some small round holes in old stems of *Conium maculatum* which we assumed were made by *Aethes beatricella* (Walsingham). As this was a species I had not seen I collected a few stems.

Moths emerged between May and June and I noticed how similar they looked to specimens of *A. francillana* (Fabricius) which I had bred from *Daucus carota* in Devon. In January 1994 I dissected a male from Chesil and to my surprise found that it was not *beatricella* but *francillana*, which I believe has not been recorded from *Conium maculatum* either in the British Isles or on the continent.— R.J. HECKFORD, 67 Newnham Road, Plympton, Plymouth, Devon PL7 4AW.

A record of the Heart Moth, *Dicycla oo* L. (Lep.: Noctuidae) from north-west Kent

On the night of 12th July 1994 a female *Dicycla oo*, in excellent condition, came to a garden m.v. trap in West Wickham, north-west Kent. Its identity was confirmed by Graham Collins. This is an interesting record as there has been no confirmed record of its occurrence in Kent since 1919. Chalmers-